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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,680

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EXAMINER

HANRAHAN, JOSEPH M.J.

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

03/04/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,680	Applicant(s) BOUWENS ET AL.	
	Examiner JOSEPH M.J. HANRAHAN	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/10/07</u> . | 6) <input type="checkbox"/> Other: ____. |

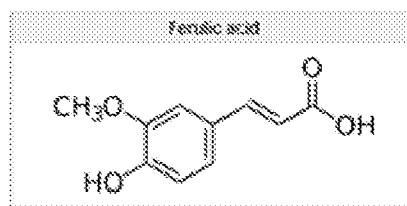
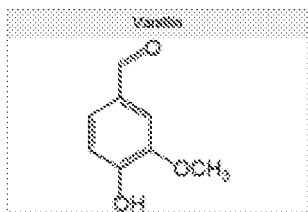
DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. In the specification, the gel of the present invention is described as being formed by crosslinked ferulic acid groups of a ferulylated compound (Spec Pg. 3, Lines 4-5). Ferulic acid groups are defined in the specification as 4-hydroxy-3-methoxy-cinnamyl groups (Spec Pg. 3, Line 11). The coupled polymer in Claim 3 finds its only support in the background section of applicants' specification (Spec Pg. 1, Lines 25-26). There an example is given: chitosan vanillin (Id.). Chitosan vanillin does not contain any ferulic acid groups. Vanillin is 3-methoxy-4hydroxy-benzaldehyde which is not the same as ferulic acid as defined in applicants specification.



3. Claims 1-8 are, therefore, indefinite because the compound being claimed in Claim 3 does not contain any ferulic acid groups and it is unclear what is meant by

Art Unit: 1794

“ferulyolated compound” in Claim 1. Since Claim 1 is indefinite all those claims that depend from it are indefinite as well.

4. Also, regarding claim 3, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 2, 5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Fitchett (US PG Pub 2002/0028197).**

7. Fitchett teaches an edible barrier (§ 75) wherein a sugar beet pectin is at least partly oxidized by peroxidase after applying it to the food product (§§ 15, 17, 18, 71, and 75; the ungelled composition can be sprayed onto the surface of the substrate which, according to § 75 could be a food such as pickles, after which the gel is formed by an oxidation reaction).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 1794

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. **Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fitchett as applied to Claim 1 above.**

12. Fitchett does not teach that the ferulylated compound is a vanillin coupled polymer or that the barrier is between 2 and 1,500 micrometers.

13. Regarding Claim 3, Fitchett teaches that the terms "ferulic acid" and "ferulate" encompass ferulyl and derivatives thereof (§ 17). Vanillin is a derivative of ferulic acid

Art Unit: 1794

and so its use is contemplated by Fitchett. It therefore would have been obvious to use a vanillin polymer in the claimed invention.

14. Regarding Claim 4, 2 to 1,500 micrometers is a very broad range and the film disclosed in Fitchett could be applied in a thickness that could be readily selected by the skilled artisan. It therefore would have been obvious to a person skilled in the art at the time of invention to have made a film with a thickness in the claimed range.

15. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fitchett as applied to claim 1, above, in view of Krochta (US Pat No. 5,019,403) and further in view of Rombouts (US Pat. No. 4,672,034).**

16. Fitchett does not teach that the oxidation is carried out in situ by an enzyme or enzymatic system which is present in the food product.

17. Krochta teaches creating an edible barrier on the surface of high moisture substrates (Col. 4, Lines 1-26) wherein the coating interacts with the substrate to create the moisture barrier (Col. 6, Lines 10-30).

18. Rombouts teaches the formation of a gel by oxidative crosslinking of sugar beet pectin (Col. 2, Lines 11-23) and that the peroxidase may be of vegetable origin (Col. 3, Line 14).

19. Given the teachings Fitchett, Krochta, and Rombouts it would have been obvious to a person skilled in the art at the time of invention to have modified the substrate-surface gel formation of Fitchett with the substrate interaction of Krochta and the vegetable enzyme source of Rombouts. The combination of these teachings would lead the person skilled in the art to arrive at an edible barrier made from beet

Art Unit: 1794

pectin that is applied to a vegetable substrate and thereafter interacts with the substrate to undergo oxidation catalyzed by the peroxidase found therein. The teachings of these references all relate to edible gels or barriers and would have been known to the skilled artisan. The motivation to combine these teachings would have been to create an edible moisture barrier on the surface of a foodstuff (Krochta Col. 6, Lines 60-65).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH M.J. HANRAHAN whose telephone number is (571) 270-7060. The examiner can normally be reached on M-F from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, david Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/

Application/Control Number: 10/583,680

Page 7

Art Unit: 1794

Supervisory Patent Examiner, Art Unit 1794

/JOSEPH M.J. HANRAHAN/
Examiner, Art Unit 1794